



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/994,015	11/27/2001	Richard S. Orr	0918.0132C	9722

27896 7590 01/05/2006

EDELL, SHAPIRO & FINNAN, LLC  
1901 RESEARCH BOULEVARD  
SUITE 400  
ROCKVILLE, MD 20850

EXAMINER
----------

LUGO, DAVID B

ART UNIT	PAPER NUMBER
----------	--------------

2637

DATE MAILED: 01/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/994,015

Applicant(s)

ORR, RICHARD S.

Examiner

David B. Lugo

Art Unit

2637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,7,8,13-15,17,18,21,25,26,29,31-35,38 and 40-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-15,17,18,29,31-35,38 and 40-42 is/are allowed.
- 6) ☒ Claim(s) 1,2,7,8,21,25 and 26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                            | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed 10/27/05 have been fully considered but they are not persuasive. With respect to the rejections made in view of Ames, Applicant argues that the forward signal 20 of Ames is not a spread spectrum signal. The Examiner respectfully disagrees. A spread spectrum signal is one in which the signal is spread over a wide bandwidth. As Ames states in col. 16, lines 42-44 and shows in Figure 5, signal 20 is chirped over a 2MHz bandwidth and is thus considered a spread spectrum signal. Further, while acknowledging that information communicated between the fixed station and mobile unit may be transmitted in time frames in a TDMA format (col. 10, lines 15-18), Applicant argues that Ames does not teach or suggest embedding a chirp spread spectrum signal having a first chirp portion into a first frame or portion of the communication signal and a second chirp portion into a second frame or portion of the communication signal. In response, it is noted that Ames discloses that the period of the triangle waveform in Figure 5 is 30 ms in one embodiment (col. 16, lines 49-51). Ames further states in col. 10, lines 18-24 that an exemplary system employing time frames is disclosed in U.S. Patent No. 4,979,170, which discloses that the length of the time frame in such a system may be around 5 ms (col. 9, lines 40-43). One of ordinary skill in the art would recognize that the period of the triangular waveform of Ames would encompass a number of time slots, and thus, at least a portion of the up-chirp would be embedded in a first frame, and a portion of the down-chirp would be embedded in a second frame. Ames is considered to teach or suggest embedding a chirp spread spectrum signal having a first chirp portion into a first frame of the communication signal and a second chirp portion into a second frame of the communication signal.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 7, 21 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Ames et al. U.S. Patent 5,126,748.

Regarding claims 1, 7 and 21, Ames et al. disclose a navigation system in Figure 2 including a transmitting station 10 that transmits digital information on a carrier signal from a first antenna 10b (col. 6, lines 50-52), the transmitting station further including a time base (forward link clock – col. 8, lines 52-54), where the communication signal is considered to be output in synchronization with the time base, the communication signal comprises time frames (col. 10, lines 15-18), considered to include a plurality of frames, and a chirp signal that is a triangle chirp waveform is generated (col. 16, lines 51-55; see Fig. 5) having an up-chirp portion that linearly increases in frequency with time and a down-chirp portion that linearly decreases in frequency with time (col. 16, lines 35-39), where the triangle chirp is considered to be embedded within the frames of the communication signal.

Regarding claim 25, Ames et al. disclose a navigation system in Figure 2 including a transmitting station 10 where a triangle chirp signal is generated (col. 16, lines 51-55; see Fig. 5) having an up-chirp portion that linearly increases in frequency with time and a down-chirp portion that linearly decreases in frequency with time (col. 16, lines 35-39), where the triangle chirp is considered to be embedded within first and second portions of a communication signal.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ames et al. in view of Gilhousen et al. U.S. Patent 5,280,472.

Regarding claims 2 and 8, Ames et al. disclose a system as described above, but do not expressly disclose a diplexer of combining means for combining the communication signal and the spread spectrum position determination signal into a composite signal, where an antenna or broadcasting means is used to transmit the composite signal.

Gilhousen et al. disclose a transmitter in Figure 4 including a summer 116 for summing with multiple channel outputs, and provided to diplexer 100 for transmitting a composite signal via an antenna 26 (see col. 18, lines 51-65).

It would have been obvious to one of ordinary skill in the art to provide a composite signal via a diplexer to an antenna for transmitting the communication signal as taught by Gilhousen et al. in the transmitting station of Ames et al. in order to allow for communication while using only a single antenna unit, thus reducing the cost of the system.

6. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ames et al.

Regarding claim 26, Ames et al. disclose a navigation method as described above, and further discloses that information is transmitted in time frames in a TDMA format (col. 10, lines 15-18), where first and second portions of the signal are considered to correspond to first and

Art Unit: 2637

second frames. Ames et al. do not disclose that the transmitted signal is a TDM/FDMA signal. However, TDM/FDMA signals are well known in the art, and it would have been obvious to one of ordinary skill in the art to employ the method of Ames et al. using TDM/FDMA signals as a matter of design choice.

***Allowable Subject Matter***

7. Claims 13-15, 17, 18, 29, 31-35, 38 and 40-42 are allowed.

***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

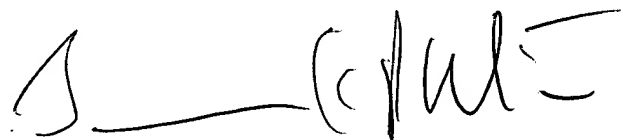
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David B. Lugo whose telephone number is 571-272-3043. The examiner can normally be reached on M-F; 9:30-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

David Lugo  
12/30/05

A handwritten signature in black ink, appearing to read 'J. Patel', with a long horizontal line extending to the left.

**JAY K. PATEL**  
**SUPERVISORY PATENT EXAMINER**